

REMARKS**INTRODUCTION:**

In accordance with the foregoing, claims 1 and 2 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-6 and 10-15 are under consideration. Claims 7-9 are withdrawn. Reconsideration is respectfully requested.

TELEPHONE CONFERENCE WITH EXAMINER:

As was discussed with the Examiner in a telephone conference, a preliminary amendment was entered in which claims 10-15 were added as counterparts of multiple dependent claims which were amended to depend from a single claim. Thus, as discussed with the Examiner, claims 10-15 are being treated as part of the elected claims.

REJECTION UNDER 35 U.S.C. §103:

A. In the Office Action, at pages 2-5, numbered paragraphs 2-5, claims 1-4 are rejected under 35 U.S.C. §103(a) as being unpatentable over Asai et al. (USPN 6,392,898) in view of Koning et al. (USPN 6,480,370). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Independent claims 1 and 2 have been amended to include the feature ---wherein the dielectric layer is selectively provided only on an electrode of the capacitor structure---

This feature is fully supported by the specification, page 15, lines 2 to 13 and Fig. 8. The dielectric layer is formed by electrophoresis using as a cathode the interconnect layer "b" or a lower electrode of the capacitor structure "x" and consequently, the thus-formed dielectric layer is selectively provided only on the electrode "b". The completed capacitor structure may be seen clearly in Fig. 2, an exploded perspective view.

The dielectric layer of the capacitor structure of the present invention comprises a mixed electrodeposited layer, thus enabling the dielectric layer to be selectively only provided on an electrode of the capacitor structure because the electrode is used as a cathode during forming the dielectric layer by electrophoresis.

This structural feature of the present invention ensures that the capacitors are

selectively formed only in the necessary positions and in a compact form, thus enabling semiconductor packages to be miniaturized, proximity between capacitors and semiconductor devices mounted on the package to be improved, and the degree of freedom in designing interconnect patterns to be improved.

If a layer having a high dielectric constant such as the dielectric layer of the capacitor is not provided only in the necessary positions, but is also provided in the other positions, signal lines running on the layer having such a high dielectric constant would unavoidably suffer degradation of their electric performance.

According to the present invention, the dielectric layer is selectively only provided in the positions necessary for composing capacitors without causing degradation of electric performance.

It is respectfully submitted that Asai et al. only discloses a buildup substrate having an insulation layer containing an inorganic filler composed of silica. Asai et al. suggests no intention of forming a capacitor, and the inorganic filler is only used to adjust the thermal expansion coefficient, etc., of the insulation layer.

Buildup substrates, in general, have an insulation layer containing an inorganic filler such as silica to adjust the thermal expansion coefficient and/or to provide improved bonding to interconnect patterns formed thereon. The inorganic filler used for this purpose necessarily have as low a dielectric constant as possible to avoid or minimize an adverse influence on the electric performance of the interconnect patterns, and therefore, is absolutely unsuitable to form a dielectric layer of a capacitor.

Therefore, it is respectfully submitted that claims 1-4 and 6 are patentable under 35 U.S.C. §103(a) over Asai et al. (USPN 6,392,898).

It is respectfully submitted that Koning et al. only discloses a filler having a high dielectric constant forming a dielectric layer of a capacitor in the form of a separate electronic part. Koning et al. suggests nothing about a capacitor built in a buildup substrate and forming an integral part of the substrate.

Therefore, it is respectfully submitted that claims 1-4 and 6 are patentable under 35 U.S.C. §103(a) over Koning et al. (USPN 6,480,370).

Asai et al. only discloses a buildup substrate having no capacitor built therein to form an integral part thereof, and Koning et al. only discloses a capacitor in the form of a separate electronic part, not in the form of a built-in capacitor forming an integral part of a buildup substrate, as is set forth in the present inventive structure. There is no teaching or suggestion of

combining Asai et al. and Konig et al. Applicant submits that an argument can always be made that combining references would enhance or improve a certain feature because the claimed invention typically produces a benefit or improvement. Generally, the purpose in combining references is not to show that the combination will worsen or degrade a feature. However, the Examiner "can satisfy the burden of obviousness in light of combination 'only by showing some objective teaching [leading to the combination].'" In re Dembiczak, 50 USPQ2d 1614, 1617 (CAFC 1999), *quoting* In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).

Further, "evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved ... The range of sources available, however, does not diminish the requirement for actual evidence." Dembiczak, 50 USPQ2d 1617. The Examiner has not provided evidence that the teaching he proposes actually exists in the prior art. In fact, his reasoning appears to have merely come from Applicant's specification.

Thus, it is respectfully submitted that there is no teaching or suggestion of combining Asai et al. (USPN 6,392,898) and Koning et al. (USPN 6,480,370), and thus, that claims 1-4 and 6 are patentable under 35 U.S.C. §103(a) over Asai et al. (USPN 6,392,898) in view of Koning et al. (USPN 6,480,370), alone or in combination.

B. In the Office Action, at page 5, numbered paragraphs 6, claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Asai et al. (USPN 6,392,898) in view of Koning et al. (USPN 6,480,370) as applied to claim 1 above, and further in view of Lauffer et al. (USPN 5,976,587). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

As noted above, amended claim 1 is submitted to be patentable under 35 U.S.C. §103(a) over Asai et al. (USPN 6,392,898) in view of Koning et al. (USPN 6,480,370), alone or in combination.

It is respectfully submitted that Lauffer et al. only discloses polyimide as an insulating resin and suggests nothing about the buildup substrate containing a built-in capacitor as an integral part thereof, as is set forth in the present inventive structure.

Therefore, it is submitted that amended claim 1 is patentable under 35 U.S.C. §103(a) over Lauffer et al. (USPN 5,976,587).

It is respectfully submitted that there is no teaching or suggestion of combining Asai et al. (USPN 6,392,898), Koning et al. (USPN 6,480,370), and Lauffer et al. (USPN 5,976,587) for the reasons that are recited in **A** above. Hence, it is submitted that amended claim 1 is patentable

over Asai et al. (USPN 6,392,898) in view of Koning et al (USPN 6,480,370) as applied to claim 1 above, and further in view of Lauffer et al. (USPN 5,976,587), alone or in combination.

Since claim 5 depends from amended claim 1, claim 5 is submitted to be patentable over Asai et al. (USPN 6,392,898) in view of Koning et al (USPN 6,480,370) as applied to claim 1 above, and further in view of Lauffer et al. (USPN 5,976,587), alone or in combination, for at least the reasons that amended claim 1 is submitted to be patentable over Asai et al. (USPN 6,392,898) in view of Koning et al (USPN 6,480,370) as applied to claim 1 above, and further in view of Lauffer et al. (USPN 5,976,587), alone or in combination.

CLAIMS 10-15:

Since claims 10-15 depend, directly or indirectly, from amended claim 2, and recite further features thereof, claims 10-15 are submitted to distinguish over the prior art for at least the reasons that amended claim 2 is submitted to distinguish over the prior art.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,
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